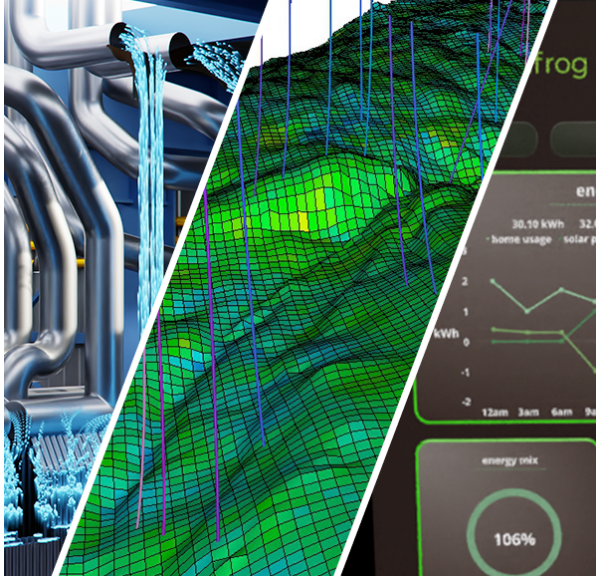
Solution Showcase

NVIDIA DGX BasePOD for Energy

Streamline AI development and deployment.



Powering a More Sustainable Future With Accelerated Computing

As global energy demand increases, a software-defined approach is needed to ensure reliable, lower-cost supply while advancing net-zero emissions goals. Using full-stack accelerated computing, leading energy companies can drive innovation across oil, gas, power, and utilities.

In the subsurface, AI and high-performance computing (HPC) accelerate reservoir simulation and seismic processing to optimize well planning, reduce impact to the environment, and advance carbon capture and storage from exploration and production operations. On the surface, industrial operators of refineries, power plants, wind farms, and solar grids can automate manually intensive IT and operational technology (OT) processes with AI-enabled computer vision and industrial digital twins—preventing costly unplanned downtimes, protecting worker health and safety, and maximizing site layout and efficiency. At the grid edge, AI is advancing decarbonization through climate and weather simulation to predict renewable energy generation and reduce fossil fuel-based electricity. These technologies are accelerating grid modernization, enabling companies to manage supply and demand from distributed energy resources and create resiliency plans for extreme weather.

NVIDIA has made it easier, faster, and more cost-effective for energy enterprises to deploy mission-critical AI use cases. By combining the proven performance, scale, and manageability of the NVIDIA DGX BasePOD™ architecture with industry-tailored software and tools from the NVIDIA AI Enterprise software suite, enterprises have a trusted, full-stack platform for building and deploying their AI applications. This solution includes proven, open-source containers and frameworks that have been certified to run securely, both on premises and in the cloud, on the most demanding energy workloads, such as grid simulation and large language models for contact centers and asset management.

Benefits

- Eliminates design complexity
- Accelerates deployment
- Delivers predictable performance at scale
- Includes the NVIDIA AI software stack, proven to optimize energy applications and development
- Comes with full-stack expertise from NVIDIA Enterprise Support

The Value of NVIDIA AI Enterprise

DGX BasePOD includes the NVIDIA AI Enterprise software suite,[1] which contains the key building blocks for developing and deploying domain-specific, end-to-end AI workflows—from data prep and training to inference and deployment. AI practitioners can choose to train on complex neural network models, as well as tree-based machine learning models.

The suite's proven containers, applications, and frameworks include the NVIDIA TAO Toolkit for image segmentation and NVIDIA Dynamo-Triton for streamlining and standardizing AI inference, enabling teams to deploy, run, and scale AI models from any framework on DGX BasePOD. A broader portfolio of NVIDIA frameworks ease adoption and accelerate key energy workloads, including transmission and distribution (T&D) asset inspection and security, grid-edge device management, utility contact center agent assist, and field-truck roll optimization. This combination gives organizations access to a fully integrated solution of AI-accelerated software and hardware that lets them quickly deploy, streamline, and accelerate their AI workloads. Use NVIDIA NIM™ microservices for optimal model development, offering speed, ease of use, manageability, and security. And because enterprise-class support is included, organizations get the transparency of open source backed by the assurance that the global NVIDIA Enterprise Support team will

Accelerate Energy Workloads With NVIDIA DGX BasePOD

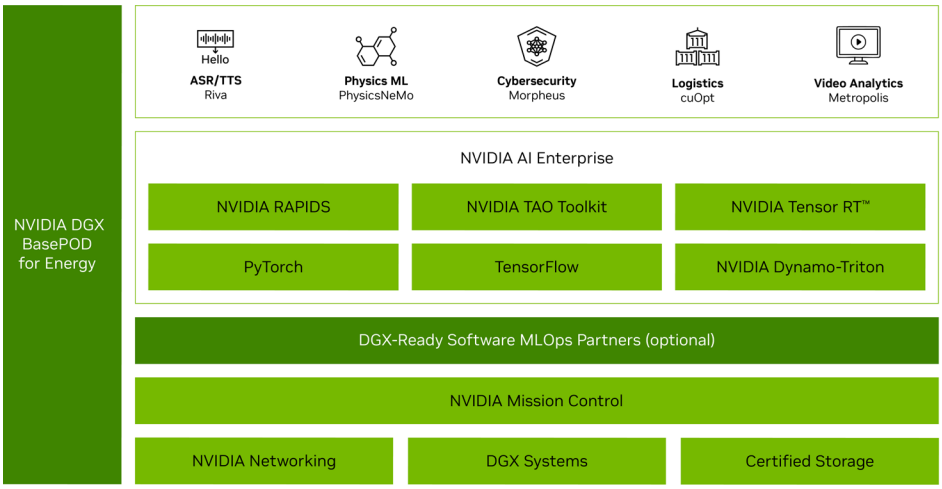
> NVIDIA Mission Control

> NVIDIA AI Enterprise

- NVIDIA® Riva for utility contact center agent assist[1]
- NVIDIA Metropolis for T&D asset inspection and security
- NVIDIA Morpheus for data theft, customer billing fraud, and substation cyberattack detection
- NVIDIA cuOpt™ for field-truck roll optimization[1]
- NVIDIA PhysicsNeMo for industrial digital twins and climate and weather simulation
- NVIDIA NeMo™ for internal search, transcription, summarization, and asset management

NVIDIA DGX BasePOD for the Energy Industry

Optimized to streamline AI development and deployment



DGX BasePOD for the energy industry

[1] See the NVIDIA AI Enterprise packaging, pricing and licensing guide for details

Run Models, Automate the Essentials With NVIDIA Mission Control

NVIDIA Mission Control powers every aspect of AI factory operations, from developer workloads to infrastructure to facilities, with the skills of a world-class operations team, now delivered as software. It brings instant agility for inference and training while providing full-stack intelligence for infrastructure resilience. Mission Control lets every enterprise run AI with hyperscale-grade efficiency, accelerating AI experimentation.

A Strong Ecosystem of Proven Partners

NVIDIA DGX BasePOD for energy solutions are certified by NVIDIA and include a qualified and proven ecosystem of storage partners. They use the NVIDIA Magnum IO™ portfolio for intelligent data center input and output (IO) and include technologies like NVIDIA GPUDirect® Storage, which provides the highest-performance IO directly to the GPUs powering the AI infrastructure, accelerating jobs like image processing. DGX BasePOD for energy, fully integrated and tested with the partner ecosystem, also simplifies the deployment of on-prem accelerated AI infrastructure for enterprise IT organizations.

Supported by NVIDIA

With NVIDIA DGX BasePOD, both AI practitioners and IT administrative teams have access to NVIDIA experts globally. This provides coordinated support across the full solution, including partner products, control over upgrade and maintenance schedules with long-term support (LTS) options, and access to instructor-led customer training and knowledge base resources.

Ready to Get Started?

To learn more about NVIDIA DGX BasePOD, visit:
nvidia.com/dgx-basepod

To learn more about NVIDIA AI Enterprise, visit:
www.nvidia.com/ai-enterprise-suite

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